



PTO/SB/088 (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

| INFORMATION DISCLOSURE<br>STATEMENT BY APPLICANT |      | Complete if Known      |                 |
|--|------|------------------------|-----------------|
| (Use as many sheets as necessary)                |      | Application Number     | 10/759,327      |
|  |      | Filing Date            | 1/17/2004       |
|  |      | First Named Inventor   | Venkateswaran   |
|  |      | Art Unit               | 1645            |
|  |      | Examiner Name          | Lakia J. Tongue |
| Sheet 1  | of 3 | Attorney Docket Number | CIT002          |

| NON PATENT LITERATURE DOCUMENTS                        |                       |   |                |
|--|-----------------------|---|----------------|
| Examiner Initials*                                     | Cite No. <sup>1</sup> | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.                               | T <sup>2</sup> |
| LT   | 1                     | Anonymous, (1980) NASA Standard Procedures for the Microbiological Examination of Space Hardware, NHB 5340.1B, 1980, Jet Propulsion Laboratory communication, National Aeronautics and Space Administration. <i>Pages 2-26.</i>   |                |
| <i>no copy provided<br/>pages of book not provided</i> | 2                     | Cole R. M. and Popkin, T. J. (1981) Electron microscopy. In Manual of Methods for General Bacteriology, pp. 34-51. Edited by P. Gerhardt, R. G. E. Murray, R. N. Costilow, E. W. Nester, W. A. Wood, N. R. Krieg & G. B. Phillips. Washington, D.C.: American Society for Microbiology.       |                |
| <i>copy of book not provided not considered</i>        | 3                     | Colwell, R. R. and Grimes, D. J. (2000) Nonculturable Microorganisms in the Environment. Washington, D.C.: American Society for Microbiology.   |                |
| <i>title provided only</i>                             |                       | Johnson, J. L. (1981) Genetic characterization. In Gerhardt, P. Manual of Methods for General Bacteriology, pp. 450-472. Edited by P. Gerhardt, R. G. E. Murray, R. N. Costilow, E. W. Nester, W. A. Wood, N. R. Krieg & G. B. Phillips. Washington, D.C.: American Society for Microbiology. |                |
| <i>Abstract only</i>                                   | 5                     | La Duc M.T., Nicholson W., Kern R., and K. Venkateswaran (2003) Microbial Characterization of the Mars Odyssey Spacecraft and Its Encapsulation Facility. Environ Microbiol. <i>(in press) Oct 5, 2003 p 977 Abstract only; entire article not provided.</i>                                  |                |
| <i>Abstract only</i>                                   | 6                     | Nakamura, L. K. (2000) Phylogeny of Bacillus sphaericus-like organisms. Int J Syst Bacteriol 50: 1715-1722.   |                |
| <i>abstract only</i>                                   | 7                     | Nakamura, L. K., Shida, O. Takagi, H., and K. Komagata, K. (2002) Bacillus pycnus sp. nov. and Bacillus neidei sp. nov., round-spored bacteria from soil. Int J Syst Bacteriol 52: 501-505  |                |
|  | 8                     | Nicholson, W. L. and Setlow, P. (1990) Sporulation, germination, and outgrowth. In Molecular Biological Methods for Bacillus, pp. 391-450. Edited by C. R. Harwood and S. M. Cowling. Chichester, England: John Wiley & Sons.   |                |
| LT   | 9                     | Nicholson, W. L., Munakata, N., Horneck, G., Melosh, H. J. and Setlow, P. (2000) Resistance of Bacillus endospores to extreme terrestrial and extraterrestrial environments. Microbiol Mol Biol Rev 64: 548-572.  |                |
| <i>Purchase info only</i>                              | 10                    | Priest, F. G. (1993) Systematics and Ecology of Bacillus. In Bacillus subtilis and Other Gram-positive Bacteria, pp. 3-33. Edited by A. L. Sonenshein, J. A. Hoch, & R. Losick. Washington D.C.: American Society for Microbiology.   |                |

|                    |                     |                 |         |
|--------------------|---------------------|-----------------|---------|
| Examiner Signature | <i>L. J. Tongue</i> | Date Considered | 4/18/05 |
|--------------------|---------------------|-----------------|---------|

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

|   |      |                          |                 |
|---|------|--------------------------|-----------------|
| Substitute for form 1449/PTO  |      | <b>Complete if Known</b> |                 |
| <b>INFORMATION DISCLOSURE<br/>STATEMENT BY APPLICANT</b><br><br>(Use as many sheets as necessary) |      | Application Number       | 10/759,327      |
|   |      | Filing Date              | 1/17/2004       |
|   |      | First Named Inventor     | Venkateswaran   |
|   |      | Art Unit                 | 1645            |
|   |      | Examiner Name            | Lakia J. Tongue |
| Sheet 2   | of 3 | Attorney Docket Number   | CIT002          |

| NON PATENT LITERATURE DOCUMENTS |                       |   |                |
|---------------------------------|-----------------------|---|----------------|
| Examiner Initials*              | Cite No. <sup>1</sup> | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.   | T <sup>2</sup> |
| Abstract only                   | 11                    | Priest, F. G., Goodfellow, M. and Todd, C. (1988) A numerical classification of the genus <i>Bacillus</i> , J Gen Microbiol 234: 1847-1882.   |                |
| Abstract only                   | 12                    | Rheims, H., Fruhling, A., Schumann, P., Rohde, M. and Stackebrandt, E. (1999) <i>Bacillus silvestris</i> sp. nov., a new member of the genus <i>Bacillus</i> that contains lysine in its cell wall, Int J Syst Bacteriol 49: 795-802.   |                |
| LT                              | 13                    | Reisenman, P.J. and Nicholson, W.L. (2000) Role of the spore coat layers in <i>Bacillus subtilis</i> spore resistance to hydrogen peroxide, artificial UV-C, UV-B, and solar UV radiation. Appl Environ Microbiol 66: 620-626.  |                |
| Abstract only LT                | 14                    | Ruger, H. J., Fritze, D., and Sproer, C. (2000) New psychrophilic and psychrotolerant <i>Bacillus marinus</i> strains from tropical and polar deep-sea sediments and emended description of the species. Int J Syst Evol Microbiol 50: 1305-1313.   |                |
|                                 | 15                    | Ruimy, R., Breittmayer, V., ElBaze, P., Lafay, B., Boussemart, O., Gauthier, M. and Christen, R. (1994) Phylogenetic analysis and assessment of the genera <i>Vibrio</i> , <i>Photobacterium</i> , <i>Aeromonas</i> , and <i>Plesiomonas</i> deduced from small subunit rRNA sequences. Int J Syst Bacteriol 44: 416-426. |                |
|                                 | 16                    | Satomi, M., Kimura, B., Mizoi, M., Sato, T. & Fujii, T. (1997) <i>Tetragenococcus muraticus</i> sp. nov., a new moderately halophilic lactic acid bacterium isolated from fermented squid liver sauce. Int J Syst Bacteriol 47: 832-836.  |                |
|                                 | 17                    | Nakamura, L. K., Shida, O. Takagi, H., and K. Komagata, K. (2002) <i>Bacillus pycnus</i> sp. nov. and <i>Bacillus neider</i> sp. nov., round-spored bacteria from soil. Int J Syst Bacteriol 52: 501-505  |                |
| LT                              | 18                    | Schaeffer, P., Millet, J. & Aubert, J.-P. (1965) Catabolic repression of bacterial sporulation. Proc Natl Acad Sci 54: 704-711.   |                |
| LT                              | 19                    | Swofford, D. (1990) PAUP: phylogenetic analysis using parsimony, version 3.0. Computer program distributed by the Illinois Natural History Survey, Champaign, IL.   |                |
| Abstract only                   | 20                    | Venkateswaran, K., Kempf, M., Chen, F., Satomi, M., Nicholson, W., & Kern, R. (2003) <i>Bacillus nealsonii</i> sp. nov., isolated from a spacecraft assembly facility, whose spores are gamma-radiation resistant. Int J Syst Evol Microbiol 53: 165-172.   |                |

|                    |   |                 |         |
|--------------------|---|-----------------|---------|
| Examiner Signature |  | Date Considered | 4/18/05 |
|--------------------|---|-----------------|---------|

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

|  |      |                          |                 |
|--|------|--------------------------|-----------------|
| <b>Substitute for form 1449/PTO</b><br><br><b>INFORMATION DISCLOSURE<br/>STATEMENT BY APPLICANT</b><br><br>(Use as many sheets as necessary) |      | <b>Complete if Known</b> |                 |
|  |      | Application Number       | 10/759,327      |
|  |      | Filing Date              | 1/17/2004       |
|  |      | First Named Inventor     | Venkateswaran   |
|  |      | Art Unit                 | 1645            |
|  |      | Examiner Name            | Lakia J. Tongue |
| Sheet 3  | of 3 | Attorney Docket Number   | CIT002          |

| NON PATENT LITERATURE DOCUMENTS |                       |  |                |
|---------------------------------|-----------------------|--|----------------|
| Examiner Initials*              | Cite No. <sup>1</sup> | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.  | T <sup>2</sup> |
| Abstract only LT <sup>21</sup>  |                       | Venkateswaran, K., Satomi, M., Chung, S., Kern, R., Koukol, R., Basic, C. & White, D. (2001) Molecular microbial diversity of a spacecraft assembly facility. Syst Appl Microbiol 24: 311-320.   |                |
| Title only                      | 22                    | Wayne, L., Brenner, D. J., Colwell, R. R., Grimont, P. A. D., Kandler, O., Krichevsky, M. I., Moore, L. H., Moore, W. E. C., Murray, R. G. E., Stackebrandt, E., Starr, M. P., & Truper, H. G. (1987) International Committee on Systematic Bacteriology: Report of the ad hoc committee on reconciliation of approaches to bacterial systematics. Int J Syst Bacteriol 37: 463-464.   |                |
| Abstract only LT                |                       | Yoon, J.-H., Lee, K.-C., Weiss, N., Kho, Y. H., Kang, K. H. & Park, Y.-H. (2001) Sporosarcina aquimarina sp. nov., a bacterium isolated from seawater in Korea, and transfer of Bacillus globisporus (Larkin and Stokes 1967), Bacillus psychrophilus (Nakamura 1984) and Bacillus pasteurii (Chester 1898) to the genus Sporosarcina as Sporosarcina globispora comb. nov., Sporosarcina psychrophila comb. nov. and Sporosarcina pasteurii comb. nov., and emended description of the genus Sporosarcina. Int J Syst Evol Microbiol 51: 1079-1088. |                |
|                                 | 24                    | <del>GenBank; http://www.ncbi.nlm.nih.gov/</del><br>copy not provided  |                |
|                                 | 25                    | <del>http://mars.jpl.nasa.gov/odyssey/</del> NOT PERMITTED<br>copy not provided.   |                |
|                                 |                       |  |                |
|                                 |                       |  |                |
|                                 |                       |  |                |
|                                 |                       |  |                |
|                                 |                       |  |                |
|                                 |                       |  |                |

|                    |                  |                 |         |
|--------------------|------------------|-----------------|---------|
| Examiner Signature | <i>L. Tongue</i> | Date Considered | 4/18/05 |
|--------------------|------------------|-----------------|---------|

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.



PTO/SB/088 (02-03)

Approved for use through 07/31/2008. OMB 0951-C031  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

|   |      |                          |                 |
|---|------|--------------------------|-----------------|
| <b>INFORMATION DISCLOSURE<br/>STATEMENT BY APPLICANT</b><br><br>(Use as many sheets as necessary) |      | <b>Complete If Known</b> |                 |
|   |      | Application Number       | 10/759,327      |
|   |      | Filing Date              | 1/17/2004       |
|   |      | First Named Inventor     | Venkateswaran   |
|   |      | Art Unit                 | 1645            |
|   |      | Examiner Name            | Lakia J. Tongue |
| Sheet 1   | of 1 | Attorney Docket Number   | CIT002          |

| NON PATENT LITERATURE DOCUMENTS |                       |   |                |
|---------------------------------|-----------------------|---|----------------|
| Examiner Initials*              | Cite No. <sup>1</sup> | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issu number(s), publisher, city and/or country where published.  | T <sup>2</sup> |
| LT                              | 1                     | Ash, C., Wallbanks, S. and Collins, M. D. (1991) Phylogenetic heterogeneity of the genus Bacillus as revealed by comparative analysis of small-subunit-ribosomal RNA sequence, Lett Appl Microbiol 13: 202-206.   |                |
| LT                              | 2                     | Ezaki, T., Hashimoto, Y. and Yabuuchi, E. (1989) Fluorometric deoxyribonucleic acid-deoxyribonucleic acid hybridization in microdilution wells as an alternative to membrane filter hybridization in which radioisotopes are used to determine genetic relatedness among bacterial strains. Int J Syst Bacteriol 39: 224-229. |                |
|                                 | 3                     | <del>Neide, E. (1904) Botanische Beschreibung einiger sporenbild- enden Bakterien, Zentbl Bakteriol Parasitenkd Infektionskr Hyg Abt II 12: 337-352.</del>  |                |
|                                 |                       |   |                |
|                                 |                       |   |                |
|                                 |                       |   |                |
|                                 |                       |   |                |
|                                 |                       |   |                |
|                                 |                       |   |                |
|                                 |                       |   |                |
|                                 |                       |   |                |

|                    |                  |                 |         |
|--------------------|------------------|-----------------|---------|
| Examiner Signature | <i>L. Tongue</i> | Date Considered | 4/18/05 |
|--------------------|------------------|-----------------|---------|

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.